

Effective A

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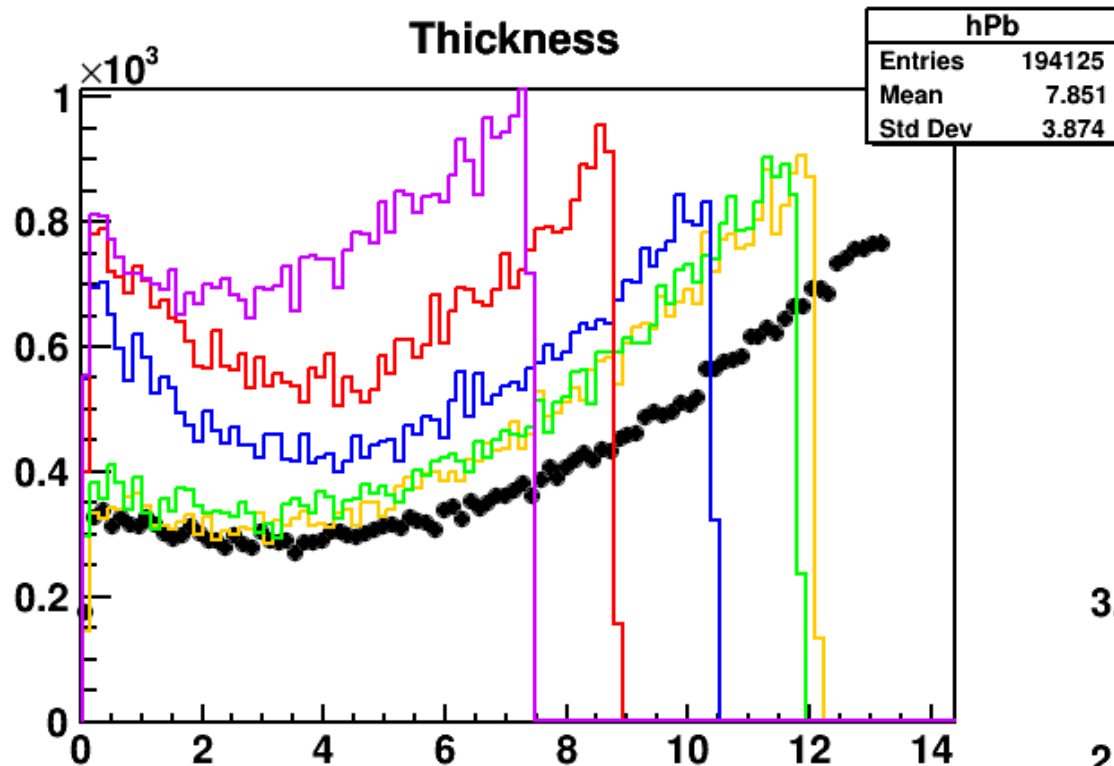
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- Weaker A_{eff} for $\langle T(b) \rangle$

Crossing angle & angular dispersion

- Simulate in collinear frame
- ROBO to laboratory collider frame
- Note: Formula are a little more complicated than $\beta_x = \theta/2$ and $\theta_{\text{rot}} = \theta/2$, but straightforward.
 - Even a bit more complicated when you include angular dispersion in y – but still OK...
- If we approximate collinear p_e and p_A as fixed, then an afterburner will work.
 - Otherwise vary p event by event
 - Need that to simulate beam p distribution anyway...

Thickness $(T(b)/\rho_0)$ in fm



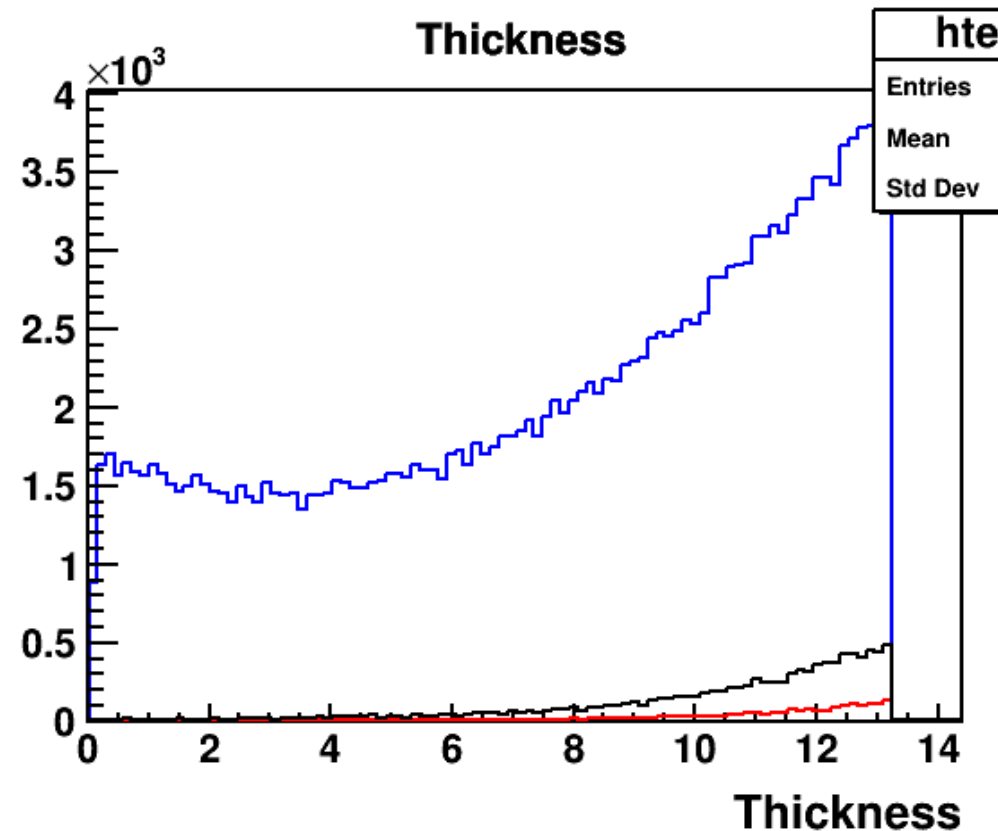
Ca Cu Zr Xe W Pb

Minbias

5.3% central 10.45 fm

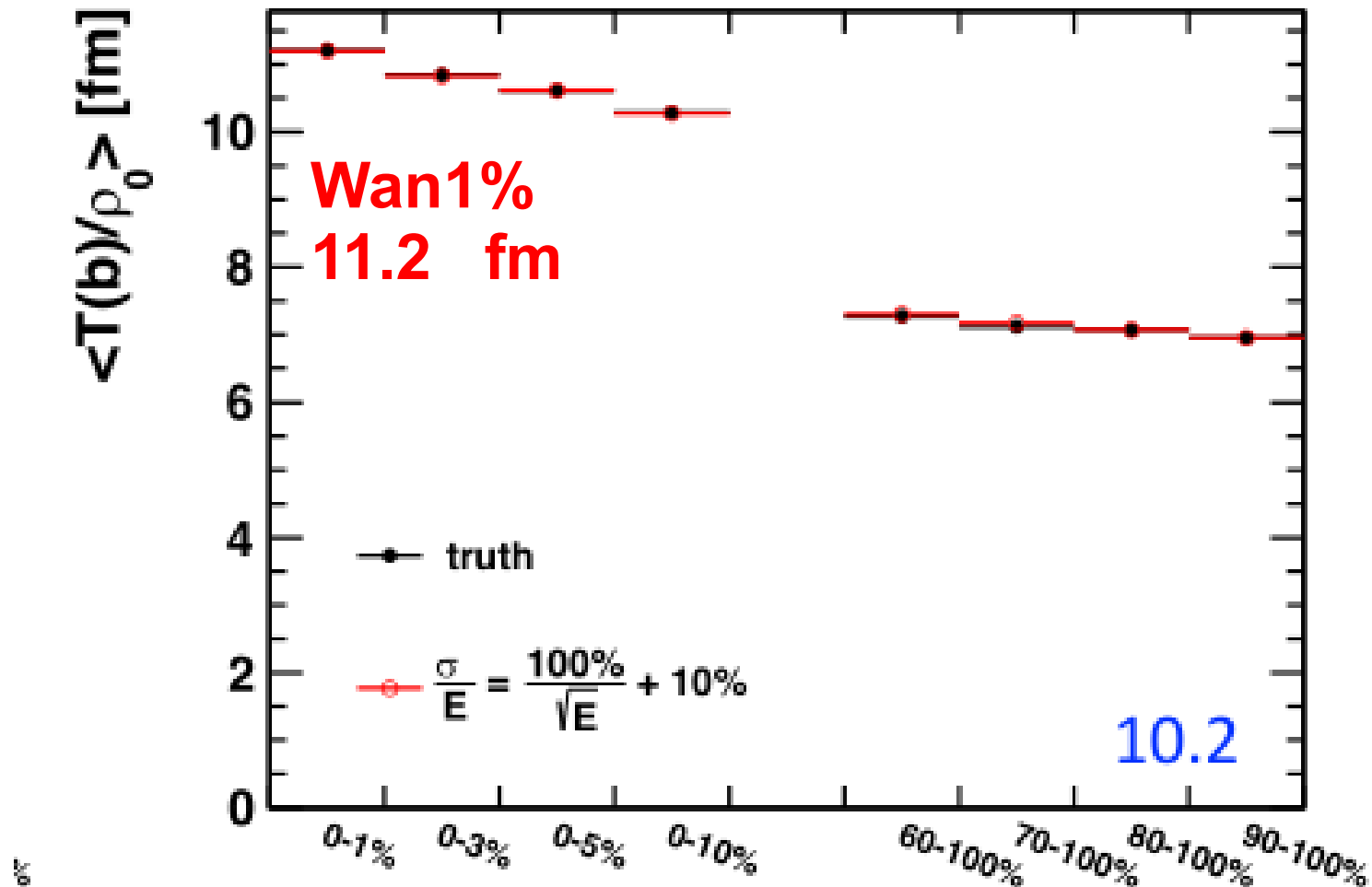
1.05% central 10.93 fm

Wan1% 11.2 fm

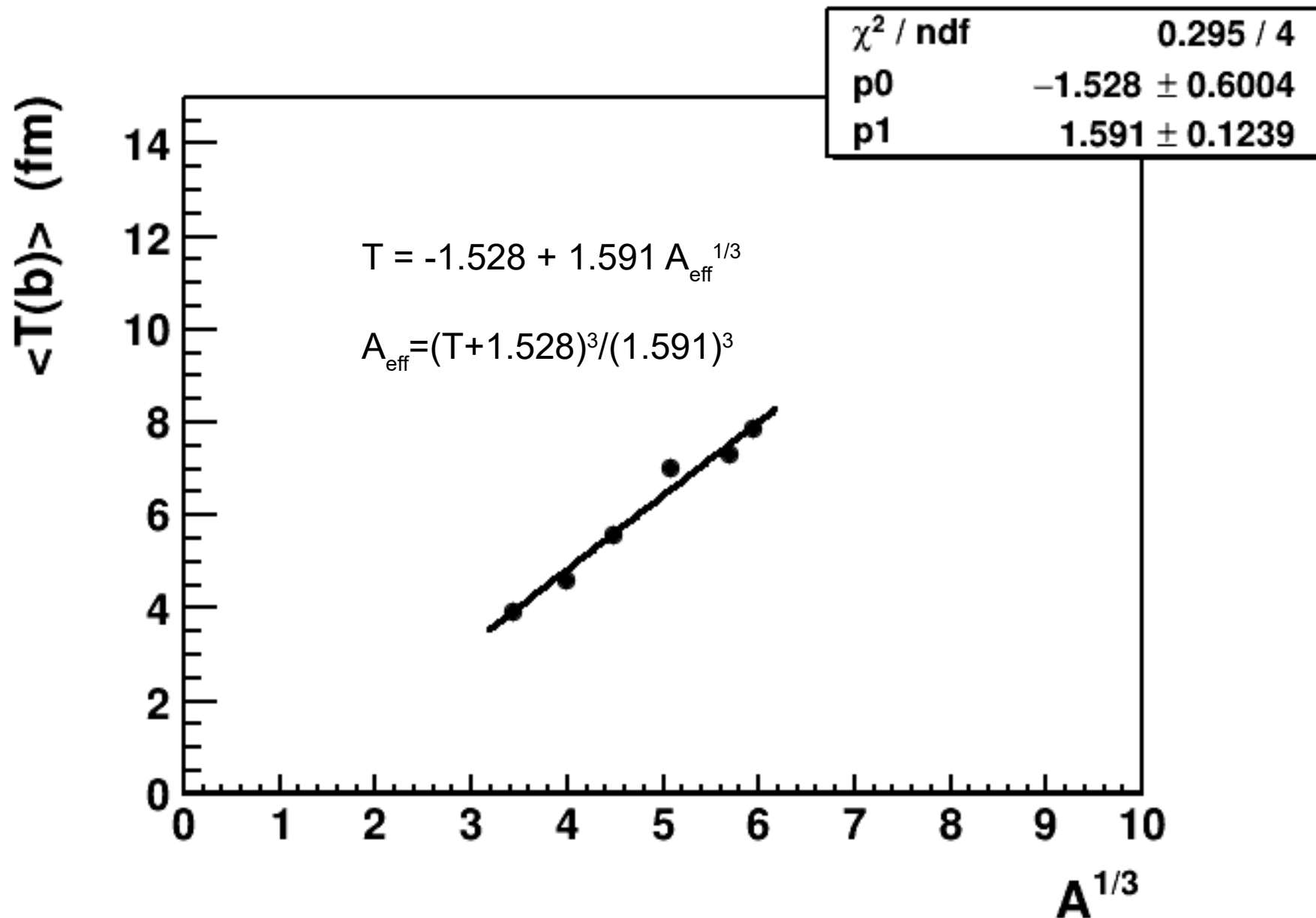


Slide from Wan e+Pb

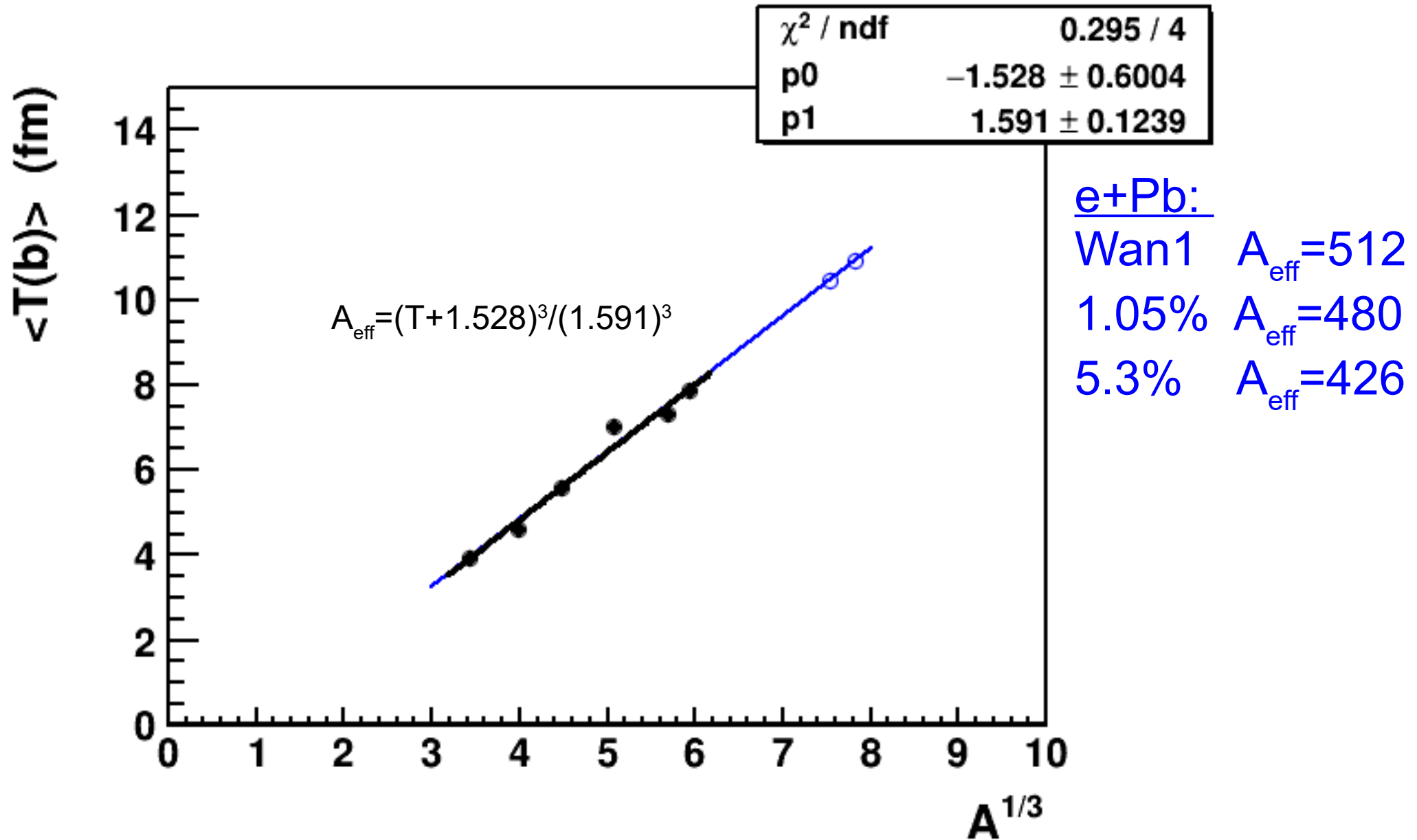
The average value of nuclear thickness
 $T(b)/\rho_0$ in different centrality bins :



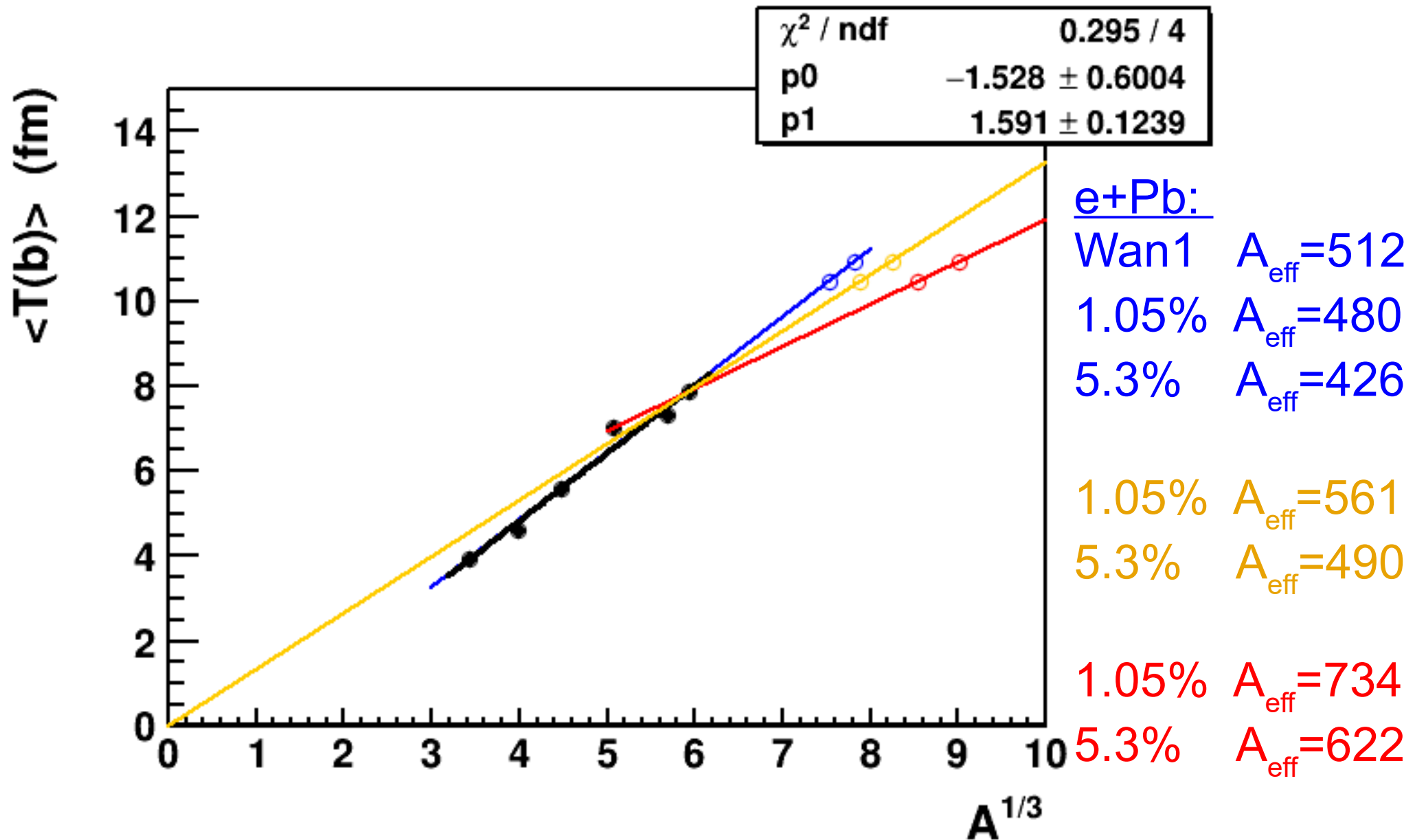
Minimum bias results fit $T = p_0 + p_1 A^{1/3}$



Extrapolation to Central e+Pb



Extrapolation to Central e+Pb (old versions)



Conclusions

- Effective A for $T(b)$ using the ZDC is about 500 for 1% central Pb using Wan 1% cuts on E_{ZDC} .
- Earlier, higher, results were based on simpler extrapolations
- Will discuss $\langle d \rangle$ next time:
 - Higher results $A_{\text{eff}} > 1000$
 - Central shape is very different than minbias
 - Auto-correlation problem measuring medium modification vs. " d "...